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To be, or not to be: That is the question

"To be, or not to be." Hamlet's question is being asked all over the world today—by young men above the clouds, beneath the sea, in the deserts, in the Arctic. It is being asked, with a somewhat different meaning, by presidents of colleges and universities, by heads of business, by financiers, by statesmen, by all interested in the future of humanity.

The officers of the Association have asked many times during the past few months a much less momentous question, namely, whether the scheduled New York meeting is to be or not to be. To arrive at a clearly reasoned answer is not easy, for the considerations on which it should be based are many and somewhat conflicting. The Government has asked that all kinds of conventions be cancelled, or limited to local meetings, in order to reduce burdens on transportation systems. At the same time it admits that gatherings of scientists during the war period will often be desirable. A request of the Government should not be lightly ignored even if it is qualified and somewhat ambiguous. Greater issues are at stake than the success of any meeting or the prestige of any organization. If scientists are interpreting correctly the significance of the tragic events transpiring in the world today, the pattern of the interrelations among human beings is now being determined for a long period in the future. Clearly the determination of that pattern far transcends in importance every other subject now before scientists.

With all these considerations in mind the officers of the Association for months have been going forward, not however without some hesitation, with plans for the New York meeting. No one except a very few officers of the Association is under any obligation to attend. It is not expected that anyone will attend if by doing so he will neglect any service that he can render our Government. There are about 3000 members of the Association in New York City and its immediate vicinity, and about 10,000 members within three or four hours of it by train. It is not easy to see that the attendance at the meeting of a considerable fraction of them would retard the wheels in any factory or delay the producton of anything essential for the prosecution of the war.

Negative considerations, however, are not sufficient to justify the holding of a great meeting, or indeed to justify any positive action. It is not enough simply to drift with the tide. The times call for strong forces to give desirable direction to the great currents that are flowing.

The presidential address and addresses of the fifteen vice-presidents of the Association are scheduled for delivery at the New York meeting. As a rule the addresses of the presidents and of the vice-presidents are syntheses of important fields of science, or on the relations of those fields of science to the life and the thought of the world. Many times in the 94 years since the founding of the Association stirring addresses have been delivered on subjects of current importance, but never has there been such an opportunity for inspiring messages as now exists, with the fate of the whole world hanging in the balance and depending heavily on this nation.

About 35 affiliated and associated societies are meeting with the Association as usual. The presidents of some of them will deliver their presidential addresses during the meeting. Perhaps they will depart more than usual from the technicalities of their own fields and take up the problem of determining how the members of their respective societies can best serve our Government in these critical days. Programs are under preparation by sections and societies on various aspects of this country's war efforts, and on a number of them representatives of our armed

services will appear. These are some of the opportunities that will be presented at the meeting for conferences on war problems by many groups who cannot get together more easily in any other way.

Finally, there is the possibility that the Association as a whole will make its voice heard throughout the nation, a voice that will be strong because of the great membership of the Association, and rich because of the wide range of the interests it represents. If the Association avails itself adequately of this favorable opportunity of speaking for American science, its voice will be heard throughout the Western Hemisphere, along the heroic front from the Baltic to the Volga, in weary China, in sullen India, and gradually in unhappy France and other subjugated countries.

Five years ago, at its annual meeting in Indianapolis, the Association passed the following resolution:

WHEREAS, science and its applications are not only transforming the physical and mental environment of men but are adding greatly to the complexities of their social, economic and political relations; and

WHEREAS, science is wholly independent of national boundaries and races and creeds and can flourish permanently only where there are peace and intellectual freedom; now therefore, be it

Resolved by the Council on this thirtieth day of December, 1937, that the American Association for the Advancement of Science makes as one of its objectives an examination of the profound effects of science upon society; and that the Association extends to its prototype, the British Association for the Advancement of Science, and to all other scientific organizations with similar aims throughout the world, an invitation to cooperate not only in advancing the interests of science but also in promoting peace among nations and intellectual freedom in order that science may continue to advance and to spread more abundantly its benefits to all mankind.

What will it say at its meeting next December?

Since the foregoing was written the Executive Committee met and voted to proceed with the New York Meeting.—F. R. M.

Nominations for President of the Association

In accordance with long custom, on October 1 every member of the Association was sent an invitation to place in nomination some fellow of the Association as its president for 1943. The fact that a larger response to this invitation is being received than in any earlier year is evidence of the interest members have in the election of officers of the Association. As in former years, about twenty fellows are receiving a large number of nominating ballots. It is probable that, as in former years, the Council will elect as President of the Association one of those who have received large support from the entire membership.

The letter of invitation to nominate a fellow for president included the names of the presidents of the Association for the past twenty years and the fields of their major scientific activities. This list included one mathematician, three physicists (two Nobel prize winners), two chemists (one Nobel prize winner), one astronomer, one geologist and one paleontologist, two zoologists, two botanists, one anthropologist, two psychologists, one economist, one engineer, and two from the fields of the medical sciences. It would be difficult to find in this country twenty men as uniformly distributed over the major sciences and of greater scientific eminence than the presidents of the Association during the past 20 years.

The invitation to nominate a fellow for president of the Association for 1943 also contained the names of all fellows receiving two or more votes in the preliminary nominating ballots cast by the members of the Council. Under a provision of the Constitution, the Council will elect the next president of the Association at the New York meeting next December 31. The fact that the 249 members of the Council cast only 116 preliminary nominating ballots called forth the following comment of a fellow of the Association, who has been a member for nineteen years: "I was shocked to see that but 116 out of 249 members of the Council were interested enough to cast a ballot for the president. It shows 'dry rot' and the need of a change of membership in that group of individuals at once."

If a large number of members of the Council were not devoting all their energies to war work, it would be surprising that fewer than half of them should neglect to make a nomination for president of the Association. If the charge that there is "dry rot" in the Council is well founded, the condition must be due to the method of electing its members. Since the Constitution of the Association is in process of revision and probably will be presented to the Council at the New York meeting for adoption, the present is an opportune time to make known and to correct such imperfections as it may have.

Probably not all members of the Association know precisely how the Council is constituted. There are two classes of members of the Council, one being elected by the Association and the other elected wholly independently by the affiliated academies and societies. Those elected by the Association include, as ex officio members, the President, the Vice Presidents and Secretaries of the fifteen sections, the Permanent Secretary, the

General Secretary, the Treasurer, the members of the Executive Committee; and, in addition, one member elected by the Pacific Division, one elected by the Southwestern Division, and eight members elected by the Council, two annually for a term of four years. Since the Executive Committee consists of eight elected members and three ex officio members, the President, the Permanent Secretary and the General Secretary, the maximum number of members of the Council that may be elected by the Association is 52.

Each affiliated academy of science and each affiliated society having fewer than 100 members who are fellows of the Association elects one member of the Council; and each affiliated society having at least 100 members who are fellows of the Association elects two members of the Council. There are at present 34 affiliated academies of science, 36 affiliated societies entitled to elect only one member of the Council, and 65 affiliated societies entitled to elect two members of the Council. Consequently the affiliated academies of science and the affiliated societies may elect, at the maximum, 200 members of the Council, whereas the maximum number the Association may elect is 52. At present there are 249 members of the Council, three fellows having been elected as members of the Council by two different affiliated societies, 52 of whom were elected by the Association and 197 by the affiliated academies and societies.

Resignations Because of the War

A young man holding the B.S. degree from the College of the City of New York and an M.S. from Cornell University, who is now a private in the Army at Camp Wheeler, Georgia, in connection with the payment of his dues for the fiscal year which began on October 1, wrote in part as follows:

> Although I am at present out of contact with my work, I hope to be able to resume it at the conclusion of the war. I feel that membership in the Association will help me maintain my contacts.

This young private soldier who very soon will probably cross thousands of miles of ocean to unknown dangers utters no word of fear or complaint. Instead, he looks across space and time to the eventual return of peace and the resumption of his scientific work. He sets an example of confidence that there will be a future worth looking forward to, and of determination not to lose sight of it however heavy present burdens may be. His is the spirit of which the future will be made. His name is Bernard Krafchick.

The letter of this private soldier is quoted in part because it puts in simple words the attitude of an unexpectedly large fraction of the membership of the Association. Certainly the times are grievous, the costs of living are high, taxes are heavy and clouds of uncertainty obscure the future. Yet the returns from members of the Association day after day prove that scientists regard science as the greatest living force in the world and their connections with it as precious privileges that only as a last resort will they permit to be broken.

If the officers of the Association have been surprised at the responses from members, for which statistics will be given later, it must be because the fires of their courage and ambitions have been burning low. But the letters they are now receiving from the members are fanning those dimming embers again into flame. They will be unwearying in their efforts to make the Association a faithful servant of science during all the war period while scientists are using their great resources in the defense of freedom. Like the young soldier, the officers of the Association will not lose confidence in the future. They will steadfastly believe that present disorders are surface waves beneath which lie vast stabilities. They will look forward eagerly to post-war days in which science will have its most glorious period, and they will expect that the Association will then make its greatest contribution to human welfare by serving as a virile and efficient integrating and unifying agency for the myriad fields of science.

A Fight for Five Thousand Freedoms

Progress means going forward. It must build more than is destroyed or it does not merit its name. Not only should it be of a tangible, material character, but it should contain the elements of greater spiritual growth for the individual and community alike. It should lift the chin and put a new spring into humanity's step.

The President of the United States has said that we are fighting for four freedoms—freedom from want and freedom from fear, freedom of speech and freedom of religion. A former President of the United States, Herbert Hoover, has added that a fifth freedom is also mandatory in the victory—freedom of economic enterprise.

The scientist accepts these freedoms unreservedly. To their attainment he is glad to give life itself, if that is the price. But the scientist is fighting just as whole-souledly for five hundred, yes, for five thousand other freedoms.

The freedom to work, to expand the intellect, to worry through with a theory until it is validated or disproved; the freedom to banish the wasteful and enthrone the efficient; the freedom to improve, if he can, everything that exists under the sun, and beyond that to create things upon which the sun has never before shone—these, too, are freedoms for which the true scientist fights.

As a man, he fights for the freedom to better his lot and for the rewards that ability merits. As an incurable altruist—and the true scientist is one—he fights even harder for the freedom to better the lot of mankind, that each generation may rise to heights loftier than any won by its predecessor.

A soldier of peace, he fights for the freedom to mold a better destiny, both for the individual and for the race.

These freedoms have always been America's. We fight to keep them America's. Let our swords be mighty, and mighty indeed will be our plowshares.—From an address before the American Chemical Society on September 7 by Dr. Charles M. A. Stine, vice president of E. I. du Pont de Nemours and Company, Inc.

A Migration of Mathematicians

Undoubtedly the greatest migration of mathematicians in history has taken place in the past few years. In the 10 years from 1933 to 1942, inclusive, at least 131 mathematicians have left their homes in Europe and have become residents of, and many of them citizens of, the United States.[1] Among them are many whose fame long preceded them—for example, Albert Einstein, Wolfgang Pauli and Jacques Hadamard, the first from Berlin, the second from Zürich and the third from Paris. Of these 131 mathematicians, 16 came from Göttingen, 16 from Vienna, 15 from Berlin, 7 from Paris, 7 from Prague, 6 from Zürich and 4 from Warsaw. The special fields of a considerable fraction of these recent arrivals in America are theoretical physics, statistics, actuarial statistics, engineering and astronomy.

Obviously there has been a great addition to the scholarship of the United States. It is remarkable that so many specialists in one somewhat limited field could have been almost completely absorbed in so short a time in the scientific life of one country. Although there has been some assistance from foundations and other organizations, the rapid assimilation of these foreign scholars in time of a depression and declining resources for the support of universities is due both to their fine adaptability and to the cordial welcome that their colleagues in this country have extended to them.

Those whose memories reach back to the time when Germany was distinguished throughout the world for the freedom, as well as the distinction, of its scholarship will ponder sadly on the human frailties that have resulted in complete eclipse of academic freedom where until recently it shone so brightly.

[1] Arnold Dresden. The Migration of Mathematicians. *The American Mathematical Monthly*, Aug.–Sept. issue, 1942.

Courses in Methods of Quality Control

In 1924 Shewhart developed statistical methods of quality control which, with their later refinements by himself and others, have recently become of great importance in production for war purposes in this country and England. The purpose of these methods is to determine by systematic processes the qualities of manufactured products with a view to improving their uniformity, reducing inspection, altering specifications and tolerances, and decreasing rejections.

So great has been the recent demand for the use of these methods and so few have understood them that in July Stanford University conducted a 10-day course on them on its campus, and in September an 8-day course in Los Angeles, both under the leadership of E. L. Grant and Holbrook Working of its faculty, supplemented by W. Edwards Deming of the Census Bureau, Ralph Wareham of the General Electric Company, and C. R. Mummery of the Hoover Company. These courses set a pattern that might be found useful in imparting knowledge and developing skills in many fields of importance for our war efforts. The entire courses were compressed into a little more than a week of work by holding sessions eight hours daily, including Saturdays and Sundays. Thus necessity has set a new pace in the educational process in this field.

A second point of interest in these courses is the emphasis they give to recently developed scientific methods. The traditional method of science is to experiment, varying if possible one condition at a time. In many fields, however, it is not possible to control conditions so exactly, but in many of them nature or man repeats a process endlessly under conditions whose slight variations are unknown. Here is where statistical methods are applied. By their proper use they establish from the many repetitions results which are comparable to those that might be obtained from experiments in which one condition

at a time can be varied. It may be true that in the broad fields of the natural and the social sciences, taken as a whole, the newer statistical methods will be fully as valuable as the older and simpler experimental methods. There is, however, no good point to contrasting them, for they are two fundamental methods that together promise for science a great future.—W. EDWARDS DEMING.

Programs on Science and the War

Science Teaching in War-Time is the subject of the symposium planned by the American Science Teachers Association for Wednesday morning, December 30. Brig. Gen. Lewis B. Hershey, Director of the Selective Service System, one of the four speakers on the symposium, will give an address on "Science Teaching at All Levels in Relation to the War Effort." This session will be held in the Ballroom of the Hotel Pennsylvania.

The American Association of Economic Entomologists and the Entomological Society of America will devote a joint session to a symposium on Entomology and the War. The symposium will be held in the Grand Ballroom, New Yorker Hotel, on Tuesday, December 29.

In addition to the address of the Retiring Vice President, Dr. G. M. Smith of Stanford University, the Section on Botanical Sciences (G), in joint session with the affiliated societies of the Section, will have a symposium of three invited papers on Botany and the War. This session is scheduled for Tuesday afternoon, December 29, 1942, in the Little Theatre, Hunter College.

Three symposia on various aspects of science in the war effort are being planned by the American Association of Scientific Workers and will be held Tuesday afternoon and Wednesday morning and afternoon, December 28 and 29, in the Commodore Hotel. Although the Office of the Permanent Secretary has not been informed of all such programs, it is quite likely that the programs of nearly all sections and societies meeting with the Association at New York will in some way bear on the present emergency.

Contributed Papers for Programs

Occasionally information is requested about placement of contributed papers on programs. Since the secretaries of the sections are in charge of the programs, members will save considerable time if their communications are mailed direct to the appropriate secretary. However, a word of warning is perhaps in order at this time. Most of the sections have been planning their programs for several months and now have almost completed preparations for their New York sessions. This leads to the apologetic remark that this note should have appeared in an earlier number of the BULLETIN in order to be helpful to members. The following are the secretaries to whom inquiries should be addressed:

Mathematics (A): Dunham Jackson, University of Minnesota, Minneapolis, Minn.

Physics (B): Henry A. Barton, 175 Fifth Ave., New York, N. Y.

Chemistry (C): Neil E. Gordon, Wayne University, Detroit, Mich.

Astronomy (D): Charles C. Wylie, University of Iowa, Iowa City, Iowa.

Geology and Geography (E): Allyn C. Swinnerton, Antioch College, Yellow Springs, Ohio.

Zoological Sciences (F): James W. Buchanan, Northwestern University, Evanston, Ill.

Botanical Sciences (G): George W. Martin, University of Iowa, Iowa City, Iowa.

Anthropology (H): W. M. Krogman, University of Chicago, Chicago, Ill.

Psychology (I): Edna Heidbreder, Wellesley College, Wellesley, Mass.

Social and Economic Sciences (K): E. P. Hutchinson, 2032 Belmont Road, Washington, D. C.

Historical and Philological Sciences (L): Raymond J. Seeger, George Washington University, Washington, D. C.

Engineering (M): George A. Stetson, 32 West 40th St., New York, N. Y.

Medicine (N): Wade W. Oliver, Chairman and Secretary pro tem, Long Island College of Medicine, Brooklyn, N. Y.

Subsection on Dentistry: Paul C. Kitchin, Ohio State University, Columbus, Ohio.

Subsection on Pharmacy: Glenn L. Jenkins, Purdue University, La Fayette, Ind.

Agriculture (O): W. A. Albrecht, University of Missouri, Columbia, Mo.

Education (Q): H. H. Remmers, Purdue University, La Fayette, Ind.

Sociologists Meeting at Cleveland

The thirty-seventh annual meeting of the American Sociological Society will be held at Cleveland, Ohio, December 29 to 31, 1942. Four general sessions and sessions of numerous specialized sections make up the program this year. One of the general sessions will discuss the Role of Women and Minority Groups in our Society in War-Time. Another general session will deal with some basic concepts of democratic society. The third general session will be devoted to Community Organization for War and Post-War Activities, including addresses by Jonathan Daniels of the Office of Civilian Defense on "The Civilian Front in War-Time," and by M. L. Wilson of the Department of Agriculture on "Local Organization in Rural Areas for War and Peace."

An address by the President of the society, Dr. Dwight Sanderson, on "Sociology, a Means to Democracy," will be given at a joint session with the Rural Sociological Society and the National Conference on Family Relations.

Sectional meetings will be devoted to Social Psychology, Population, Social Theory, Community and Ecology, The Family, Measurement in Sociology, Criminology, Sociology in Business and Industry, Sociometry, The General Social Science Course, Social Problems in the Housing of War Workers, Conceptual Integration.

Other societies meeting in Cleveland at the same time include the Rural Sociological Society, the American Economic Association, the American Statistical Association, the American Marketing Association, and the American Farm Economic Association.

On the Educational Front

The following extract from a recent letter from W. M. Whyburn, the University of California at Los Angeles, who was a member of the committee nominated by the Association last January and appointed by the Army Air Corps to investigate the requirements for pre-induction training in educational institutions, is a clear commentary on the acute needs of our armed forces for assistance from universities and colleges; and it presents an inspiring example of what great contributions a university can make to our war effort on an almost entirely informal basis. Such initiative and competence in the midst of great confusion supports the confidence America has had in her educational institutions.

Our mathematics program for the aircraft workers has now expanded to approximately 40 courses. The demand for mathematics courses is increasing very rapidly. Our University has been asked by the large aircraft companies to provide as many as 300 trained women for engineering departments of these companies. It is desired that the women have mathematics, through differential calculus, along with a substantial course in physics, as well as drafting and other similar subjects. In addition to this we would expect to give them a number of specialized aircraft courses under ESMWT sponsorship. The aircraft companies have already employed all of our upper division and graduate young women.

On the side of training of men in service, or pre-induction training, we have also been quite active. During the summer we have conducted a series of courses in anti-aircraft mathematics for the men enlisted in the Coast Artillery assigned to anti-aircraft stations in California. Local army authorities have been most enthusiastic about these and have begged us to continue them. Present indications are that this will be done. A similar course has been introduced into our regular campus offering and is required of all men in advanced R.O.T.C. units.

Still another activity in which I think you will be interested is the following: all educational units of the State have formed a state-wide committee on mathematics. I have been made chairman of that committee, and we are having meetings now. Our main considerations concern immediate changes that can be made in the entire school offering, which will better prepare young men for their work in the air corps, the navy, and other armed services. Along with these considerations, we are also keeping in mind the needs of young women who must be prepared for work in the war industries. Finally, we are attempting to see that teachers of mathematics throughout the schools are supplied with ample illustrative and problem material which shows the need for mathematics in all parts of the war program.—W. M. WHYBURN.

Recent Activities of the British Association

Following the "Conference of European Agriculture" in London last March 20–21, the British Association for the Advancement of Science organized and held a conference on "Mineral Resources and the Atlantic Charter" on July 24–25, at which geological, mineralogical, economic and other scientific subjects bearing upon Section 4 of the Atlantic Charter were discussed. The chairmen of the four sessions of this conference were Sir Thomas Holland, Sir William J. Larke, Dr. C. H. Desch and the Right Honorable Sir Stafford Cripps. It is planned to publish the transactions of this conference in *The Advancement of Science,* volume 2, number 7, the new quarterly journal of the British Association that was established in 1939.

At the conclusion of the Conference the following resolution was adopted for transmission to the Council of the British Association:

That this Conference on Mineral Resources and the Atlantic Charter, convened by the British Association's Division for the Social and International Relations of Science, request the Council of the Association to consider means by which the Association could assist in the carrying out of the fourth Article of the Atlantic Charter, which postulates access for all States on equal terms to the raw materials of the world.

This Conference, having specifically dealt with mineral resources, submits that, as a first step, the Council should initiate forthwith consultations with appropriate scientific and technical organizations to secure an understanding on the principles involved. The Conference would further urge that a scientific review of mineral resources, using and supplementing all existing data, should be among the first tasks of any international organization for the social applications of science, such as was envisaged at the recent Conference on Science and World Order. To this end, the Conference recommends that the Council should consider how it might help to promote the establishment of an International Resources Organization, as a fact-finding and advisory body for Governments, as a contribution to world stability, and in the spirit of the Atlantic Charter.

Arising out of a recommendation made to the Council of the Association at the conclusion of

the Conference on European Agriculture, a Committee has been appointed under the chairmanship of Sir John Russell to collaborate with the Allied Technical Advisory Committee on scientific problems connected with the post-war reconstruction of agriculture in the devastated and oppressed areas of Europe.

A committee has been appointed by the Council of the British Association with a view to increasing the applications of various branches of science to problems of rural planning. Dr. Dudley Stamp is chairman of this committee.

Another committee has been appointed and has held several meetings under the chairmanship of Dr. Maxwell Garneet to consider the question of post-war university education. This committee is working on an interim report with a view to its publication in *The Advancement of Science.*

Finally, it is intended to hold still another conference during the present year on "Public Understanding of the Benefits of Science."

Public Schools and the War

In the flood of propaganda flowing from thousands of pens about airplanes, ships, tanks, guns, rubber, steel, copper, aluminum, the Army, the Navy, the Marine Corps, the labor unions, and the farmers, the important contributions to our war effort by the public schools of the country have been almost completely submerged from view.

Already since the subjugation of France more than 3,000,000 persons have received training in the public schools that has led directly to jobs in war industries. At present 2150 schools and about 1500 other centers are giving preemployment training, 1300 schools are giving supplementary training and 138 colleges and universities are giving training in science, engineering and the management for war production.

In the school year 1941–42 the elementary and secondary schools sold more than $80,000,000 in War Stamps and Bonds, and in three months the 14,000,000 Junior Red Cross members in the public schools organized 1000 first-aid units. They have made more than 500,000 garments for refugee children and more than 3,000,000 articles for the armed forces. They have collected more than 150,000 tons of waste paper, an unmeasured quantity of scrap iron, and they have sponsored 169,000 acres, or more than 260 square miles, of victory gardens.

Teachers in the public schools have guided their pupils in these services and many others, without extra compensation, as a part of their efforts in defense of civilization. They have already donated 38,000,000 person-hours of their time, half of it overtime, on rationing boards and for selective service registration. Unobtrusively and without complaint they are doing their duty and have not become a pressure group.

Early Japanese Investigations of Nutrition

Following the Restoration in Japan, and the reorganization of the Government in 1867, the characteristic features of western civilization were eagerly sought and introduced into the country. Men of science and experience from different parts of the world have been employed by the Government to advise and assist in the development of political and educational institutions, and to engage in imparting western knowledge to the young minds of Japan. It has also been the policy of the Government to send abroad responsible officials and others to study carefully the political and social organizations and institutions in different countries, to learn the best methods of scientific enterprises, and thus to avail themselves of the fruits of study and experience of other lands, to the advantage of similar institutions in Japan. Among the many new ideas and suggestions thus obtained by coming in contact with Western peoples and civilizations were those concerning the methods of living, especially as regards the diet of the Japanese. It began to be questioned whether the dietary customs of the people were the best for them, and whether there was not something to be learned in this respect from the West. Indeed, the question of how to improve the physique of the Japanese had attracted the serious consideration of the thinking men at the time. The improvement of the national diet was a very popular subject of public lectures, and diverse views and opinions were exchanged by the scientists of the country.

Actual scientific investigation of the subject of nutrition in Japan began comparatively early in the new regime, the first results being published in 1882. Prominent among the earlier investigators were German scientists in the employ of the Japanese Government in various institutions, and to them is due very largely the credit for undertaking the first investigations; but even in these studies Japanese scholars were directly interested, several having assisted in carrying out the details of the work, and very soon native investigators themselves carried on more extended researches. Scientists connected with different educational and other institutions made investigations of various problems concerned in the nutrition of the Japanese.

The more important lines of investigation were

dietary studies, determinations of the chemical composition of Japanese food materials, digestion experiments, and nitrogen metabolism experiments, but in addition to these a considerable amount of research which was more or less closely related to the study of the problem on nutrition, though more narrowly physiological in character and purpose, was also conducted.—Digest of report of Japanese investigations on the nutrition of man by Kintaro Oshima, Director of the Hokkaido Agricultural Experiment Station, from Bulletin No. 159, U. S. Department of Agriculture, 1905.

Journals to Foreign Members

For some time it has been impossible to transmit the Association journals, *Science*, *The Scientific Monthly*, and the A.A.A.S. Bulletin, to members of the Association and other subscribers living in the Axis countries and in countries dominated by the Axis. Copies of the issues of these journals that can not now be sent to members in foreign countries are being held for delivery when mail service to these countries shall have been resumed.

In addition to the foregoing limitations on the delivery of the journals of the Association, the U. S. Censor has prohibited the sending of six issues of *Science* to all foreign countries without certain deletions that it has seemed impracticable to make. The six issues are those of June 19, July 3, July 10, July 17, July 31 and August 21, all of 1942. Copies of these issues are also being held for delivery after the prohibition on their sending shall have been removed.

Payments of Dues

By all odds, the number of members paying dues for the current year far exceeds the returns during October for any previous year. There has also been a corresponding increase in nomination ballots for president of the Association for next year, the number received during October being greater than the number received last year up to December 20. Of course, better information on payments of dues will be available shortly after November 1.

It may not be hopeful wishing to think that many members read the September number of the A.A.A.S. Bulletin and responded promptly when the time arrived for sending their checks. At any rate the Office of the Permanent Secretary is highly gratified and expects that the second billing, which will be mailed out on December 1, will be comparatively smaller, and hence less costly, than in previous years.

Officers of the Association

President, Arthur H. Compton; *Permanent Secretary,* Forest R. Moulton; *General Secretary,* Otis W. Caldwell; *Treasurer,* C. Carroll Morgan; *Assistant Secretary,* Sam Woodley.

Executive Committee: Burton E. Livingston, *Chairman;* Roger Adams, Joseph W. Barker, Otis W. Caldwell, Walter B. Cannon, J. McKeen Cattell, Roy E. Clausen, Arthur H. Compton, F. R. Moulton, and W. E. Wrather.

Membership in the Association

According to the Constitution, the objects of the Association are to promote intercourse among those who are cultivating science in different parts of America, to cooperate with other scientific societies and institutions, to give a stronger and more general impulse and more systematic direction to scientific research, and to procure for the labors of scientific men increased facilities and a wider usefulness. Members may reside in any country. A person desiring to become a member of the Association should fill in a membership application card that may be obtained from the Office of the Permanent Secretary and return it with his payment of $5.00 for one year's dues. Every member in good standing receives with his membership a subscription for either *Science* or *The Scientific Monthly.* Dues are for the fiscal year that begins October 1; the subscription begins the following calendar year. A member desiring to receive both journals concurrently may do so by paying $3.00 in addition to the regular dues. Members in good standing receive also, without extra charge, subscriptions for the A.A.A.S. Bulletin, and they may purchase symposia publications at prepublication and postpublication reduced prices.

A person who pays $100 during one fiscal year may be elected a life member; sustaining members pay $1,000. Both classes are exempt from the payment of further dues but are entitled to all the privileges of membership.

An incorporated scientific society or institution or a public or incorporated library may become a member by paying the entrance fee of $5.00 in addition to the dues. Such institution members are entitled to the same privileges as individual members.

Members are encouraged to nominate for membership persons who desire to cooperate in carrying out the objects of the Association. Names may be sent to the Office of the Permanent Secretary at any time. In the letter of invitation to become a member of the Association the name of the person making the nomination is ordinarily mentioned.

Changes of Address

New addresses for the Association's record and for mailing the journals *Science* and *The Scientific Monthly,* as well as the A.A.A.S. Bulletin, should be in the Office of the Permanent Secretary, Washington, D. C., at least two weeks in advance of the date when the change is to become effective.